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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/511,122  
Filing Date: June 20, 2005  
Appellant(s): DEMITZ ET AL.

\_\_\_\_\_  
NEIL GREENBLUM  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on November 25, 2008 appealing from the Office action mailed on May 15, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,248,338	MULLER ET AL.
5,997,886	PEFFLY ET AL.
2003/0147834	ROLLAT ET AL.

Flick, E., Cosmetic Additives, Noyes Publications, 1991, pp. 172 & 304.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 18-32, 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. (US 6248338) as applied to claims 33-35 as above, and further in view of Peffly et al. (US 5997886).**

Muller discloses a hair rinse comprising 0.5 % of quaternized guar derivative (Jaguar C-162, hydroxypropyl guar hydroxylpropyltrimonium chloride), 2.7 % of pregelatinized, hydroxypropylated di-starch phosphate, and 3 % of myristyl alcohol (Lanette 14, C14 fatty alcohol). See Example 1. Muller further teaches that the pregelatinized starch derivative is used in 0.1-20 % of the aqueous phase of the composition that can be about 5-98 % by weight of the total composition. See col. 5, lines 11 – 23. The surfactants including cocoamidopropyl betaine (Tego Betaine) are taught in the table shown in columns 9-10, and used in formulations examples 4-9. See instant claims 23, 30, and 39.

Muller fails to disclose the specific cationic polymer of instant claim 36. The reference teaches that the composition may be in any form including spray, gel or foam.

Peffly teaches adding hair styling or hair shine agents to hair styling products in combining with hair conditioning agents. Suitable cationic polymers include quaternized hydroxyethyl cellulose ethers (Ucare Polymer JR 400) and hydroxypropyl guar hydroxypropyltrimonium chloride. Nonionic polymers, PVP/VA copolymers and anionic acrylate copolymers are also taught. See col. 9, line 43 – col. 11, line 13; col. 21, line 27 – col. 22, line 24; examples.

It would have been obvious to one of ordinary skill in the art at the time of the present invention to modify the teachings of Muller and add to the composition hair styling or shine agents as motivated by Peffly because the latter teaches combining hair styling and conditioning agents to make hair care products. The skilled artisan would have had a reasonable expectation of successfully producing a stable hair care composition having both hair styling and conditioning benefits since both prior arts teach foam products.

**Claims 26-32, 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller as applied to claims 33-35 as above, and further in view of Flick (Cosmetic Additives, 1991).**

Muller is relied upon as discussed above. The reference teaches that the starch acts as a stability improver, a viscosity regulator, a (co) emulsifier, a skin feel improving agent, and an agent for improving hairdressing characteristics. See col. 5, lines 23 - 65.

Muller teaches to formulate the composition in the form of a high viscosity alcoholic gel, and optionally to add additional thickening agents. See col. 7, line 66 – col. 8 line 44.

While the reference generally teaches adding cationic polymers in its hair conditioning compositions, the reference does not specifically teach adding cationic cellulose of instant claim 5 and vinylpyrrolidone/vinyl acetate copolymer of instant claim 7.

Flick teaches that cationic quaternized celluloses are useful in hair care formulations and enhances wet and dry combing, increases body and reduces flyaway. See p. 172. The reference also teaches that vinylpyrrolidone/vinyl acetate copolymers are film-formers used in hairsprays, gels, mousses, lotions, hair thickeners, etc. See p. 304. The reference teaches using 1-4 % by weight.

With respect to claim 36, the Flick reference would have motivated one of ordinary skill in the art to modify the teachings of Muller and incorporate the cationic quaternized celluloses of Flick, because both prior arts are directed to formulating hair care products, and Flick teaches that the modified cationic celluloses improve combining properties and increases body and reduces flyaway. The skilled artisan would have had a reasonable expectation of successfully producing a hair care products with the advantageous hair conditioning properties of the cationic celluloses.

Regarding claim 26, it would have been obvious to the skilled artisan to modify the teachings of Muller by formulating a hair styling compositions comprising PVP/VA copolymers as a film-forming agent, as motivated by Flick. Since Muller teaches the

use of pregelatinized starch derivatives in hairdressing compositions, and also in making a gel product, the skilled artisan would have had a reasonable expectation of successfully formulating a hair styling gel products that provides good hairdressing properties and film-forming properties.

**Claims 18-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muller in view of Rollat et al. (US 20030147834 A1).**

Muller is discussed above. The reference fails to teach anionic or amphoteric copolymers.

Rollat teaches that anionic acrylate copolymers and amphoteric copolymers (Amphomer) are hair styling copolymers suitable for styling conditioner, spray, conditioning spray, lotion, gel, tonic, etc. See abstract, [0131], [0019]. The reference teaches adding 0.01-3 % by weight of cationic conditioning polymers to the styling compositions. See [0053-0101].

It would have been obvious to one of ordinary skill in the art at the time of the present invention to modify the teachings of Muller by incorporating anionic or amphoteric hair styling copolymers as motivated by Rollat, because the latter teaches that hair styling copolymers and conditioning polymers are combined to make a hair care product having both beneficial conditioning and styling properties. Since the references teach similar type of formulations (gel, lotion, etc) the skilled artisan would have had a reasonable expectation of successfully producing a stable composition.

**(10) Response to Argument**

**Claims 18-35 and 37-41 are properly rejected under 35 U.S.C. § 103 (a) over**

**Muller in view of Peffly**

Appellant asserts that there is no apparent reason to combine Muller and Peffly because Muller teaches of general use of a pregelatinized, crosslinked starch in personal care products while Peffly is directed to a specific type of a hair care composition. More specifically, appellant argues that the Muller compositions are directed to "cleaning or caring for the skin, teeth or hair or for cleaning smooth surfaces" while the Peffly compositions are directed to a low volatile organic compound hair styling composition. In response, appellant's statements are erroneous because Muller in fact discloses specific utility of gelatinized crosslinked starch in a hair rinse product in Examples 1-3 of the specification, thus application of the pregelatinized, crosslinked starch in hair care art for improving hairdressing and hair conditioning characteristics was made notorious to one of ordinary skill in the art at the time of the present invention. See abstract, col. 5, lines 46-65; col. 8, lines 10-37. As stated in the rejection, it is also well known to combine hair conditioning agents with hair styling polymers to make hair care products. See Peffly, col. 18, lines 4 – 14. The reference also specifically mentions that cationic starch derivatives can be added as a hair conditioning polymer in col. 21, line 28 - col. 22, line 24, particularly in col. 22, line 19. In view of these teachings, a composition comprising the pregelatinized, crosslinked starch derivatives of Muller and the hair styling polymers of Peffly would have been an obvious combination.



Appellant also argues that the selection of the applicant's hair styling polymer would amount to mere picking and choosing from the "hundreds if not thousands" of polymers disclosed by Peffly. The argument is unpersuasive because appellant's selections of the polymers for independent claims are also in terms of a broad genus rather than specific compounds. Peffly discloses silicone-containing hair styling polymers and non-silicone containing polymers which include cationic, amphoteric, nonionic, and anionic polymers, all known to confer hair styling benefit. Thus, selecting one of these ionic or nonionic types hair styling polymers in view of Peffly as appellant has done would have been an obvious modification of Muller. Furthermore, Example VII of Peffly illustrates using appellant's specific anionic polymer of instant claim 26, PVP/VA copolymer.

Appellant argues that the references are not combinable because Muller exemplifies rinse-out shampoo and conditioner, while the Peffly products are hair styling products which confer good style retention without stickiness or stiffness. Appellant asserts that it would not be plausible to incorporate the hair styling polymers of Peffly into the exemplified hair care composition of Muller because these polymers would not be able to adhere to the hair but would be washed off.

However, appellant's arguments would be valid only if the pregelatinized, crosslinked starch at issue were used as a detergent on the hair. Rather, the starch derivative in Muller is used as a hair conditioning agent in shampoos and conditioners and as a viscosity-building agent in hair bleaching and coloring compositions which holds other active agents on the hair. See col. 8, lines 24 - 33. Muller suggests the use

of the pregelatinized, crosslinked starch in general hair care compositions and as an agent for improving hairdressing characteristics. See abstract. Thus, Muller teaches and suggests that application of the pregelatinized, crosslinked starch is not limited to shampoos and conditioners, and thus one of ordinary skill in the art would have been motivated to use the starch derivatives in other hair care products other than shampoos and conditioners to obtain the hair conditioning and viscosity building properties of the starch derivative, as appellants has done in the present case.

Appellant also argues that there would be no expectation of success in combining the teachings of Muller and Peffly, and asserts that the outcome of combining a narrowly defined and specialized polymer with another type of polymer would be unpredictable and might compromise the benefits of the prior art pregelatinized starch. Appellant further asserts that the alleged lack of mention of other type of polymer within the Muller reference should support appellant's position.

In response, appellant's argument is erroneous because Examples of Muller in fact utilize various polymers with the pregelatinized, crosslinked polymers. See, for example, Examples 1-3 containing a hydroxypropyl guar derivative (Jaguar C-162) and Examples 37-39, containing polyvinylpyrrolidone (Luviskol K30); see also the table in col. 9. Furthermore, a mere silence of a particular aspect in a patent should not be taken as a teaching away from incorporating other beneficial components known in the art that would further improve the prior art invention and advance the interests of the art. Also, as indicated above, Peffly specifically suggests the compatibility of the starch derivative with the hair styling polymers, as the reference teaches the latter is

combinable with a variety of hair conditioning polymers, including cationic starch derivatives. See col. 21, lines 28 - col. 22, line 19. Examiner also respectfully points out that a prima facie case of obviousness requires a "reasonable" and not an absolute expectation of success, as appellant here seems to suggest. In this case, the prior arts provide sufficient motivation and guidance to combine the teachings of the references and make the claimed composition with a reasonable expectation of success. Thus the obviousness rejection is proper.

Applicant also argues that not every hair styling polymers of Peffly is combinable with other components. In response, examiner respectfully points out that there is no implicit or express in the reference that the disclosed polymers in Peffly cannot be combined with the pregelatinized, crosslinked starch derivatives of Muller.

With respect to claims 33-35 and 37-41, appellants asserts that Muller teaches away from the subject matter of claim 33, which requires a combination of at least one pregelatinized, crosslinked starch derivative and at least one cationic cellulose derivatives. Appellant points out to the passage in col. 8, lines 33-37 of Muller, which teaches "polysaccharide thickening agents commonly used in hair treatment compositions, such as hydroxyethyl cellulose and xanthan gum, are typically difficult to disperse as they form lumps and fish eyes".

In response, examiner respectfully points out that an aqueous dispersion is not part of the claimed limitations in this case, nor does appellant require the claimed composition in any particular form of composition that would have been affected by the potential dispersibility issue of polysaccharides broadly suggested by Muller. On the

other hand, Peffly specifically indicates in col. 11, lines 15 – 23 that it would be within the skill of the art to choose an appropriate carrier in which the hair styling polymer is soluble or dispersible and use suitable solvent systems to further aid making a homogeneous solution or microdispersion with the essential components in the weight ratios used in the composition. For example, Example IV illustrates dissolving Celquat H-100, a quaternized cationic cellulosic polymer, in water/ethanol solvent system. Thus it is prima facie obvious to combine the hair conditioning agents, namely a pregelatinized, crosslinked starch derivative, and the hair styling polymer, the quaternized cellulose of Peffly, to make a hair treatment product with both hair conditioning and styling effects; and formulating a stable composition using these polymers would have been within the skill of the art.

**Claims 26-35 and 37-41 are properly rejected under 35 U.S.C. § 103 (a) over Muller further in view of Flick.**

Appellant continues to argue that Muller fails to teach adding other polymers different from the pregelatinized, crosslinked starch, and asserts that reference somehow provides an "implicit warning" that the presence of other compounds may interfere with the properties of the starch derivatives. For the reasons as discussed above, examiner respectfully disagrees; there is no factual evidence or legal precedent to support appellant's position.

Appellant also argues that the PVP/VA polymers of Flick appear to be incompatible with the purpose of the hair care products of Muller. Appellant asserts that the hard and gloss film properties of PVP polymer would not be desirable for a hair care

product. Examiner respectfully disagrees; the full disclosure of the reference goes on to indicate the utility of this particular polymer in hair care compositions. In fact, the reference suggests that it is within the skill of the art to modify the flexibility of the film formed by the polymer. Flick teaches that this particular polymer has "good compatibility with many modifiers" and the hygroscopicity and film flexibility is also modifiable by using plasticizers. See Flick, p. 304, Properties. Thus, appellant's argument that Flick provides a disincentive to use the PVP/VA polymer in a hair care product is unpersuasive.

Appellant further argues that the only hair care products that Muller discloses are limited to hair shampoos and conditioners. The statement is erroneous because the reference in fact teaches of using the starch derivative in hair coloring or bleaching compositions and even in shaving foam containing a PVP film forming polymer. Thus appellant's argument that Muller somehow suggests incompatibility of the pregelatinized crosslinked starch derivative and a water-soluble film forming polymer is unpersuasive.

Appellant also argues that the quaternized celluloses of Flick do not add any advantageous property to the composition of Muller. Examiner respectfully disagrees, as the obviousness rejection in fact cites the teaching of Flicks which discloses the specific hair conditioning benefits of the quaternized celluloses that would have motivated one of ordinary skill in the art to employ those very polymers. Flick teaches that the disclosed specialized quaternized celluloses enhance wet and dry combing and/or increase body and reduces flyaway.

Appellant also asserts that incorporating these polymers would risk incompatibility and/or "other problems potentially associated with the employment of a quaternized cellulose". The argument is unsupported because there is no evidence in the record to indicate any identifiable potential issues in using the specialized quaternized celluloses in combination with pregelatinized, crosslinked starch. Although appellant points out to the col. 8, lines 33-37 of Muller to assert that the reference somehow teaches away from using the quaternized cellulose of Flick, the argument is unpersuasive. In fact, examiner views that Flick provides the specific reason why a skilled artisan would have chosen these particular quaternized cellulose in view of the Muller patent, as appellant has done in this case. The general teaching of the dispersibility issue of polysaccharide or hydroxyethyl cellulose in water per se does not teach or suggest how the specialized quaternized celluloses of Flick would behave in water. In fact, Flick explicitly discloses the water solubility of its specialized quaternized cellulose for a skilled artisan to predict the outcome of adding these celluloses in aqueous medium. On p. 172 of the reference indicates that Crodacel QL, laurdimonium hydroxyethyl cellulose, is "the most water soluble", while Crodacel QM, cocodimonium hydroxyethyl cellulose, is also more soluble than Crodacel QS, steardimonium hydroxyethyl cellulose. Since laurdimonium hydroxyethyl cellulose and cocodimonium hydroxyethyl cellulose are said to be water soluble, a skilled artisan would have had a reasonable expectation of successfully producing a stable composition comprising these water-soluble quaternized celluloses in an aqueous phase containing the pregelatinized crosslinked starch of Muller.

Applicant also argues that since the pregelatinized, crosslinked starch and the quaternized cellulose of Flick impart the same benefits to the hair, i.e., combability and sleek look, there would have been no reason to combine these components. The argument is unpersuasive because a skilled artisan would have certainly expected additive and improved hair care benefits by combining the teachings of these references. Examiner respectfully submits that appellant's arguments are unpersuasive, and the present obviousness rejection should be maintained.

**Claims 18-32 are properly rejected under 35 U.S.C. § 103 (a) over Muller in view of Rollat**

Appellant again argues that Muller is not particularly directed to hair care products, while still admitting that the patent teaches compositions for cleaning or caring for hair. Appellant's argument is contradictory at best, since appellant in fact has referred to numerous passages in Muller which discloses various hair care products in order to advance the previous arguments made above. Furthermore, examiner respectfully points out that the Rollat disclosure of hair styling shampoo and rinse renders making a similar hair styling shampoo and rinse products is an obvious variation of the prior arts.

Appellant argues the methacrylic copolymers set forth in the abstract is not identical with the anionic or amphoteric polymers mentioned in the portion of the specification relied upon by the examiner. Appellant cites paragraph [0050] of the reference to assert that anionic and amphoteric polymers are mere optional components for the Rollat invention. However, examiner respectfully points out that

other parts of the reference clearly indicate that the methacrylic copolymer is at least weakly anionic. See [0046]. The specification further elaborates on using anionic and amphoteric polymers for the hair styling shampoo and conditioner throughout the specification in paragraphs [0102]-[0158].

In response to applicant arguments that Muller and Rollat provide an "implicit warning" not to combine the starch derivatives with any other polymers, examiner asserts that that there is no factual or legal support for this position. Rolla's disclosure in paragraph [0050] that optional ingredients should "not interfere with the reshapable properties of at least one (meth)acrylic copolymer" does not in anyway teach or suggest, either implicitly or expressly, the pregelatinized, crosslinked starch derivatives of Muller itself would interfere with the hair styling copolymer.

With respect to claims 21 and 26-32, appellant argues that Rollat fails to mention amphoteric amide/acrylate/methacrylate copolymer and PVP/VA copolymers are used as hair styling polymers. In response, examiner respectfully points out that the particular disclosure in [0050], "cationic, anionic, nonionic, and amphoteric (such as zwitterionic) polymers *other than* polymers of the invention", implies that these polymers are also hair styling polymers. (emphasis mine) Thus examiner asserts that the obviousness rejection made over Muller in view of Rollat should be maintained.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.



Art Unit: 1611

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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